RJIL/TRAI/2025-26/630
18th November 2025

To,

Shri Akhilesh Kumar Trivedi,
Advisor (Networks, Spectrum and Licensing)
Telecom Regulatory Authority of India,
Tower-F, World Trade Centre,
Nauroji Nagar, New Delhi – 110029.

Subject: **RJIL's counter comments on TRAI's Consultation Paper on Auction of Radio Frequency Spectrum in the Frequency Bands Identified for International Mobile Telecommunications (IMT).**

Dear Sir,

Please find enclosed the counter comments of Reliance Jio Infocomm Limited (RJIL) on the TRAI's Consultation Paper dated 30.09.2025 on **"Auction of Radio Frequency Spectrum in the Frequency Bands Identified for International Mobile Telecommunications (IMT)"**.

Thanking you,

Yours Sincerely,
For **Reliance Jio Infocomm Limited**

KAPOOR SINGH GULIANI

Digitally signed by KAPOOR SINGH GULIANI
Date: 2025.11.18 18:02:14 +05'30'

Kapoor Singh Guliani
Authorized Signatory

Enclosure: As above

Reliance Jio Infocomm Limited's counter comments on TRAI's consultation paper on "Auction of Radio Frequency Spectrum in the Frequency Bands Identified for International Mobile Telecommunications (IMT)" (Consultation Paper No. 8/2025 dated 30th September 2025)

1. We appreciate the opportunity provided by the Telecom Regulatory Authority of India (TRAI) to present our counter comments to stakeholder comments on the "Consultation Paper on the Auction of Radio Frequency Spectrum in the Frequency Bands Identified for International Mobile Telecommunications (IMT)."

2. At the very outset, we reiterate our submission to the CP and request you to treat the same as part and parcel of this submission. Our key submissions are summarized below.

   a. All internationally identified spectrum should be put to auction in forthcoming auction. There is no need to hold back spectrum from auction to increase demand.
   b. Complete 1200 MHz of spectrum in 6 GHz i.e. from 5.925–7.125 GHz should be put to auction immediately, with delayed payment starting from actual availability timeframe of 2030.
   c. The spectrum tenure, roll-out obligations, and payment schedule shall commence from the date of actual assignment of the complete quantum of spectrum won in the auction.
   d. This approach will ensure regulatory consistency, equitable treatment of bidders, and alignment between financial liability and spectrum availability, thereby promoting efficient planning and long-term investment certainty for bidders.
   e. Spectrum valuation should be rationalized post considering the spectrum availability and its relative value in scheme of things.
   f. Auction determined price should continue to be key metric for valuation of already auctioned spectrum bands.
   g. There should be no reduction in spectrum valuation for all bands successfully auctioned in auction immediately preceding the proposed auction.
   h. Since 600 MHz band is the only available sub-1GHz band that can provide large chunk of spectrum suitable for 6G, its valuation should be at least 2 times the ADP of spectrum in 700 MHz band.
   i. The valuation of 6 GHz band should be at 20% of the ADP of spectrum in 3300 MHz band.
   j. The reserve price should be kept at 50% of spectrum valuation.

k. The spectrum tenure should be increased to 40 years. Successful bidders should have option to avail the 40-year tenure or opt for 20-year tenure with a right to extend the same.
l. The valuation for 40-year tenure should be at 1.2 times the valuation for 20 years to protect Annualized payment of spectrum for extended period.
m. The Telecom Service Providers (TSPs) opting for 20-year term should have the option for extending the assignment for further 20 years on same installment terms.
n. The deferred payment option in NIA 2024 should be extended under both options.
o. The Backhaul question should be addressed by auctioning this spectrum along with leveraging Integrated Access Backhaul use case of V-band and E-band. Additionally, spectrum in L-Band and S-Band should also be auctioned.
p. The spectrum cap should be removed, if required block wise spectrum cap of 40% to 50% should be applicable.
q. There is no need to re-visit the eligibility conditions for participation in auction.
r. Current roll-out obligations are sufficient with existing provision of rollout obligation being treated as fulfilled for all bands on meeting the same by use of any technology in any band by a licensee.
s. All spectrum, including the new bands, should be made available to the TSPs in a technology-neutral manner and TSPs should be allowed to use any technology/standards as per their requirements.

3. We had the opportunity to go through the comments by stakeholders and these can be divided into following broad categories

I. Carve out spectrum for new entrants with lower financial capacity.
II. Delicense entire 6 GHz spectrum band.
III. Delay auction of spectrum in upper 6 GHz band and wait for eco-system development before auction.
IV. Delay auction of spectrum in 600 MHz band and wait for eco-system development before auction.
V. Reduce existing spectrum cap from 40% to 35% per TSP as per band grouped under NIA 2024.
VI. Extension on spectrum validity
VII. Rationalization of spectrum price basis auction results

Our counter comments on these issues are as below:

I. Carve out spectrum for new entrants with lower financial capacity.

1. Some stakeholders have sought special dispensation in the auction framework for supposedly weaker and smaller players that want to offer wireless communication services but do not have wherewithal to do so and have sought reduced rollout obligations; toned down eligibility conditions and presumably cheaper spectrum, all in the garb of increasing competition in auction.

2. Paradoxically, as per this submission, all these new players will increase competition but will require some spectrum to be specifically carved out for them so that any competition they increase is only between them. In other words, create a new tier of auction, where the select few with limited capacity to build networks will compete against each other and they should not be required to meet financial and roll-out obligations like all other TSPs.

3. This proposal is irrational and irrelevant at many levels as detailed below:

    a. **Legally untenable:** Fair and transparent auctions to discover true market price for the valuable national resource spectrum is the basic tenet of the 2G judgement and creating a protected category for auction of spectrum will be a direct violation of this requirement. Even more importantly, this can lead to conditions preceding the 2G case in 2008, when spectrum was obtained for almost free to generate illegal investments leading to legal intervention. Such proposals should be avoided and nipped in the bud.

    b. **No positive impact on competition:** If the new entrants will fight against each other in an exclusive auction, then there is no tenable justification on how this will increase competition in the actual auction. The actual auction will again be between same players, so if there was no competition before, this step will not increase it.

    c. Furthermore, the carving out of spectrum for a subset of bidders might have adverse impact on competition. The TSPs plan their spectrum purchase basis feasible channel sizes out of spectrum being auctioned. In case the proposed carving out leads to reduction in available spectrum in a particular band lower than the desired channel size, then we may see no bids in that band leading to reduction in auction activity and competition.

    d. **Fragmentation of spectrum leading to inefficient utilization:** It is submitted that carving out spectrum in smaller portions to be utilized in smaller service areas will fragment the spectrum and any such auctioned spectrum will become unusable outside the smaller license area of say a city or factory. No operator will buy the remaining spectrum in rest of the LSA as they will not be

able to utilize this spectrum. Thus, such carving out will lead to inefficient use of spectrum.

e. **Another ruse for free spectrum:** Thus, this new carving out of spectrum for new players will be another new trick to get free spectrum just like delicensing and instead of any gain to the Exchequer, we will be told how much the nation will lose, if such absurd ideas are not accepted.

4. We reiterate that the eligibility criteria as defined in the NIA 2024 gives sufficient flexibility to all service providers desirous of offering communication services to Indian customers and should remain unaltered even with inclusion of new bands. There are no entry barriers for availing access service authorization under the Telecom Act 2023 and the applicants desirous of obtaining spectrum in the Auction should not be wary of taking a suitable authorization to utilize the same.

5. Allowing entities with lower entry-fee authorizations to join spectrum auctions will not enhance competition or sectoral growth. Since entry fees are negligible compared to spectrum costs, they do not pose a real entry barrier. Any entity can participate by committing to obtaining the required authorization. Hence, differentiating licensees by entry fee or authorization type serves no purpose and may create regulatory uncertainty and disputes.

6. We also reiterate that the existing spectrum auction framework is robust, transparent, and flexible, ensuring open participation and fair competition among all eligible entities. It sufficiently safeguards the twin objectives of efficient spectrum use and non-discriminatory access. Hence, no further alteration or introduction of special categories of licensees is warranted.

II. Delicense entire 6 GHz spectrum band.

1. Some stakeholders have started asking for complete delicensing of this band and have projected imaginary huge amounts of national loss if their wish is not met. These proponents of delicensing will always keep on asking for more and more free spectrum, without even justifying on how much of the currently delicensed spectrum is gainfully deployed and what has been national profit from delicensing of spectrum in 2.4 GHz and 5 GHz bands. Further, they do not support an audit of already delicensed spectrum before seeking new delicensing.

2. While harping on how all this spectrum is required for new Wi-Fi technology, they ignore that globally, **6 GHz band (5925 – 7125 MHz) is acknowledged as the 'golden band' for 6G**, as it provides optimum combination of Coverage as well as Capacity,

which cannot be matched by any other band. Further, this is the **only band now left with the Government, which can offer contiguous bandwidth of 300 MHz each** for 4 operators to help them to provide globally competitive 6G services.

3. We reiterate that there are 2 different ways by which this band is being considered worldwide. In the U.S. and parts of Europe, the lower 6 GHz (5.925 – 6.425 GHz) has been delicensed for Wi-Fi use, while China has taken a lead by finalizing its entire 6 GHz spectrum band (5.925 – 7.125 GHz) for 6G.

4. It is relevant to note that the **need for mobile spectrum in India is far greater than that of China**, primarily due to 2 reasons:

    a. **Exceptionally High population density**: India's population density of approximately 481 persons per sq. km is over three times that of China (150) and nearly twelve times that of the United States (40). Consequently, Indian networks face a unique "demand density" challenge, where a single cell site must serve exponentially more users. This makes large, contiguous spectrum blocks indispensable for maintaining service quality and network economics.

    b. **Low Fixed broadband penetration:** India's fixed broadband penetration stands at only ~15 households per 100, compared with ~95 in China, ~93 in the United States, and ~97 in South Korea. China is expected to reach 600 million fiber-connected homes by 2030. India, by contrast, remains heavily dependent on wireless connectivity to deliver broadband access under the Digital India mission. Hence, the spectrum allocated for mobile broadband must compensate for this fixed-line deficit.

5. Consequently, we submit that while determining the spectrum quantum for 5G and 6G, the above specified India's specific demographic and infrastructural characteristics must be duly considered. Thus, we reiterate that it is imperative that we reserve this entire 6 GHz band (5925 - 7125 MHz) for licensed use and start auctioning this band without any further delay.

6. It is no secret that notwithstanding the Wi-Fi related claims, mobile networks are the primary mode of internet access in India. However, as we densify the networks to meet the higher and exponentially increasing data requirements by individual consumers, while preparing to meet the data requirements of a world with billions of sensors, it is critical that large channel widths of at least 400 MHz of capacity bands are available to the TSPs and the same cannot be met by a mere 370 MHz in mid band (i.e. 3300-3670 MHz), this has to be supplemented by the entire 6 GHz band, the sole

mid-band spectrum available for IMT services, otherwise, we will be left behind in the global broadband revolution.

7. We reiterate our submissions that the International examples of delicensing the 6 GHz band in dense-fiber penetration countries such as USA, Canada, Brazil, Chile, South Korea, Mexico and Saudi Arabia etc. are not relevant to Indian ecosystem which is primarily served by wireless networks.

8. Furthermore, the Authority must bear in mind that post WRC 23, many countries that delicensed the spectrum in this band have been revisiting their decisions and many are in the process of rolling back the delicensing as is also evident from the news reports coming out of Europe[1], Europe is now recognizing the critical role of this spectrum in 6G deployment and clawing back the spectrum for licensed use, which of course will take time and costs. Thus, India should not make the same costly mistake and the entire spectrum in 6 GHz band should be auctioned and no part of it should be delicensed.

9. We reiterate that auctioned spectrum should continue to be permitted for deployment across diverse use cases in a technology-neutral manner — including Access, Backhaul, Integrated Access Backhaul (IAB), and other permissible applications. Accordingly, we reiterate that this spectrum band should be auctioned in a technology neutral manner.

III. Delay auction of spectrum in upper 6 GHz band and wait for eco-system development before auction.

1. Some stakeholders have submitted that the time is not opportune for the auction of spectrum in upper 6 GHz band, on the oft repeated grounds of lack of device eco-system availability.

2. While we understand that predicament caused by the fragmented availability of the spectrum and evolving device eco-system, we strongly disagree with the proposal to defer the auction of entire 1200 MHz (5.925–7.125 GHz) of spectrum in the 6 GHz Band.

3. We have already submitted that the device eco-system, current fragmented availability of spectrum, studies required for keep out distance with satellite-based users can be addressed by auctioning the entire band now, but deferring assignment

[1] https://telecom.economictimes.indiatimes.com/news/industry/europes-telecom-giants-win-major-spectrum-battle-against-tech-titans/125288424?utm_source=top_story&utm_medium=homepage

of spectrum, payment, roll-out obligations and spectrum tenure commencement to the date when entire spectrum is available i.e. by 2030.

4. The successful bidder will be required to confirm its firm commitment by depositing 5% of the bid amount immediately after the auction award. Further, the spectrum should be assigned in a technology neutral manner. This will have multiple benefits, as detailed below:

    a. Provide predictability, transparency, and investment certainty for TSPs.

    b. TSPs will be able to plan long-term investments in 6G networks and infrastructure with clarity on spectrum availability.

    c. TSPs can work with device vendor to develop device eco-system, as was done successfully in case of LTE and VoLTE service.

    d. Avoid fragmentation and make available interference free continuous spectrum for IMT services.

    e. The Government will have the financial commitment and assurance on deployment of this spectrum to best possible use for the citizens.

    f. It will also avoid the vicious cycle of not auctioning due to lack of device ecosystem development followed by no device ecosystem development as there is no policy clarity.

5. We reiterate that the spectrum in 6 GHz band is a critical part of the 5G/6G mid-band spectrum configurations, and it is imperative that entire band should be auctioned in case we want to realize the national vision of global 6G leadership. Further, early auction will drive indigenous innovation, research, and early deployment of world-class networks.

6. We have already referred to the studies emphasizing the large bandwidth requirements in mid-band spectrum by Ericsson and Nokia in our response and submit that the Authority should not be swayed by the delay tactics to suit individual plans but examine the suitability of auctioning the spectrum on a holistic manner with best national and consumer interests in mind.

7. We reiterate that considering the importance of this spectrum in achieving national goals and network efficiencies, it is important that the investments in this band should start in right earnest at the earliest. Therefore, we believe that the entire

spectrum in the band 5925-7125 MHz should be put to auction now in order to push device eco-system development.

IV. Delay auction of spectrum in 600 MHz band and wait for eco-system development before auction.

1. Some stakeholders have submitted that the time is not opportune for the auction of spectrum in 600 MHz band on the grounds of device eco-system availability. These comments are oblivious to the fact that the device vendors and the chip manufacturers are already working on integrating this spectrum under n105 band plan configuration, as is also evident from some of the stakeholder comments to the CP.

2. Further, the regulatory clarity in India through auction of this spectrum is bound to increase the already massive global interest in adoption of the 3GPP n105 band (erstwhile APT 600 MHz band) post 3GPP standardization in October 2022, thus, this suggestion should not be considered.

3. Evidently, the device ecosystem is a matter of time and cannot be used as an excuse to delay auction, especially when globally, the movement to deploy this spectrum is gathering pace. Further auctioning this spectrum now will also avoid the vicious cycle of not auctioning due to lack of device ecosystem development followed by no device ecosystem development as there is no policy clarity.

4. We reiterate our submission that the spectrum in sub-1-GHz is the ether of telecommunication services, and all such spectrum should be made available to the TSPs to serve the actual owners of the spectrum viz. the citizens.

5. We are not repeating the submission on coverage potential, and intrinsic value of this spectrum being the only sub-1-GHz band with sufficient availability i.e. 2X40 MHz and the fact that the chipset ecosystem in n105 band is ready subsequent to inclusion of APT600 MHz in the 3GPP NR channel list, for the sake of brevity.

6. However, a critical point for consideration is that currently there is 1,134 MHz spectrum (PAN India) available in Sub-GHz bands (700MHz, 850MHz and 900MHz) and it is used for multiple technologies (2G, 4G, 5G & IoT). This spectrum is critical to wide coverage in rural areas. With rising rural traffic, additional Sub-GHz capacity is critical. The 600 MHz band adds 2×40 MHz (880 MHz Pan India), effectively increasing Sub-GHz availability by 1.8x and ensuring sustained rural broadband coverage and user experience. **Thus, any delay in auction of this spectrum will be a conscientious decision to delay rural growth.**

7. The Authority is aware that as per GSMA, "Studies have shown that a 10% increase in mobile broadband penetration can increase GDP by 1-2%". Thus, blocking the auction of bands such as 600MHz, 6GHz etc., will have direct impact on the GDP growth of the country and will hinder the Honorable PM's Viksit Bharat vision.

8. Additionally, we would once again bring your attention to the fact that device support for newer bands is a corollary to regulatory clarity as was seen in case of successful rollout of Band n78 and n28 in India post-2022 auction, where ODMs quickly adapted to market needs. There is no case to doubt similar support for n105 band, thus the concerns about device eco-system should be rejected and **all spectrum that can be put to use in public or private communication networks should be auctioned and spectrum in the 600 MHz band is no exception.**

V. Reduce existing spectrum cap from 40% to 35% per TSP as per band grouped under NIA 2024.

1. Some stakeholders have mentioned that the spectrum cap should be reduced to 35% from existing 40% per band group, so that this will lead to equitable availability of spectrum for all TSPs in present market structure.

2. We submit that under the current market structure there is no restriction on bidding on any service provider, thus, we do not understand what is implied by the 'equitable availability of spectrum', the only plausible explanation is that in a 3-bidder market, the 35% cap will ensure that all spectrum is effectively sold at reserve price and the advocates of this policy do not have to compete for spectrum.

3. We submit this proposal is directly against the Authority's desire to increase auction activity and competition in the auction.

4. It is reiterated that RJIL firmly believes that the spectrum caps are artificial hindrances in coverage and capacity expansion, which might have been relevant in the days of spectrum scarcity, but have lost their relevance since then. Spectrum caps were originally introduced to promote competition and prevent monopolization when spectrum was scarce, and the market was nascent. Today, with abundant spectrum, mature markets, and evolved technologies, those concerns no longer apply. Natural market forces, network economics, and competition law now provide sufficient safeguards. Hence, spectrum caps have outlived their relevance and should be phased out, allowing TSPs to consolidate contiguous holdings for efficient

use and to support high-capacity 5G-Advanced and 6G networks. Artificial caps only create fragmentation, inefficiency, and unnecessary costs without consumer benefit.

5. Therefore, RJIL reiterates its submissions that the spectrum caps should be completely abolished. Without prejudice to the above, if spectrum caps are retained, they should be applied only to bands with similar technical and propagation characteristics, we have already submitted a band-wise grouping in our comments and the Authority is requested to consider the same.

6. Evidently, the grouping of Sub 1-GHz FDD bands, Mid-Band FDD bands, Mid-Band TDD bands and High-Band TDD bands for spectrum cap perspective will help operators' sufficient operational flexibility to aggregate spectrum efficiently for next-generation network deployment.

VI. Extension on spectrum validity

1. We have already submitted in our comments to the CP that there is an urgent need to increase the tenure of auctioned spectrum, as the increase from 20 years to 30 years was one of the key telecom sector reforms approved by the Union Cabinet in September 2021.

2. Most stakeholders have made various proposals on extending the spectrum tenure. One has suggested separate discussions to implement the same and yet another has requested for giving the TSPs option to extend the spectrum at lower of their bid price and latest auction price.

3. We submit that the simplest and immediately implementable proposal has been suggested by RJIL in its comments and we have also proposed 3 options for the TSPs to get the benefit of extended tenure.

4. We reiterate that the Authority should discard the thinking around linearly correlating the spectrum valuation with the spectrum tenure and should strictly view this from the perspective of long-term sustainability of the TSPs and predictability of regulatory regime to enable massive spectrum and network investments.

5. As already submitted, linear extrapolation does not make any practical sense. Furthermore, the longer spectrum tenures are keeping in with the global trends. The Authority is requested to continue the valuation methodologies for 20-year

assignment and then extrapolate the same to a 40-year term with a factor of 1.2 times the valuation for 20 years (taking into account time value of money at 8%) so to protect annualized payment of spectrum for the extended period and provide the extended tenure option to the successful bidders.

6. It is reiterated that this will provide **greater regulatory certainty and investment predictability** to TSPs and would enable them to formulate **long-term network and technology roadmaps**, including deployment of future-generation technologies, without the concern of premature expiry following the "dead-holding" period. This would, in turn, promote efficient spectrum utilization, encourage sustained capital investment, and enhance the overall stability of the telecom sector.

VII. Rationalization of spectrum price basis auction results

1. Many stakeholders have suggested that there is a need to rationalize the spectrum valuation and the reserve price. We submit that RJIL is also supportive of rationalizing the spectrum valuation so that the maximum investments are done in network deployment to deliver the digital life to all Indians and meet the national goals of Viksit Bharat, Aatmanirbhar Bharat and Digital India. However, rationalization should also take into consideration following factors.

2. **Protection of Past Auction Valuations:** We submit that rationalization of valuation of spectrum should not lead to reduction in reserve price for existing bands from their last auctioned price. It is submitted that such reductions have no logical or reasonable justification and in fact will lead to significant erosion of the value of the spectrum for the buyers who bought the spectrum in preceding auction. This concern becomes more apparent in era when the auctions are planned to be held every year. We submit that such unreasonable practices have serious impact on investor confidence as drastic reduction in prices, for bands that have already been sold in previous auction, creates investors' uncertainty leading to a possibility of muted response in next auction, anticipating speculative gains in subsequent auction next year. This will also have adverse impact on fund raising capability of TSPs.

3. Accordingly, we submit that the Authority should recommend inclusion of a provision in the NIA for the price guarantees in subsequent auctions based on auction determined price in current auction and during the life of the spectrum, which is duly protected for the NPV value, for the LSA that has been successfully sold in the last auction. In worst case price should not be reduced for at least 3 years and in case the price is reduced then the benefit of the reduction should be made available to the existing buyers.

4. **Intrinsic value and replaceability factor:** Spectrum valuation is a function of its intrinsic value and replaceability factor. For coverage spectrum bands in sub-1-GHz bands, the supply is restricted leading to low replaceability, the high coverage potential and utility in 5G/6G networks lead to very high intrinsic value, thus the rationalization of spectrum valuation should not erode the value of this very useful spectrum. We have already submitted a technical justification and the need to consider opportunity cost to recommend that valuation of 600 MHz band should not be less than 2 times the auction value of 700 MHz band.

5. On the other hand, for capacity band spectrum in 6 GHz, other considerations like delayed availability, evolving device ecosystem etc. take precedence over the low replaceability factor. Accordingly, we have submitted a technical justification to link the valuation of this spectrum by comparing its propagation characteristics with 3300 MHz band to propose a rational valuation and the same may be considered. Other factors like international auction-based valuation have also been factored into our submissions.